Storm Water Pollution Prevention Plan for North Tahoe Marina

November 15, 2000

STORM WATER POLLUTION PREVENTION PLAN

FOR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT

FOR

DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH INDUSTRIAL ACTIVITY AND MAINTENANCE DREDGING AT MARINAS

FOR

NORTH TAHOE MARINA
7360 NORTH LAKE BLVD., TAHOE VISTA, CA 96148
APN: 117-130-053

INTRODUCTION

The California Regional Water Quality Control Board (RWQCB) – Lahontan Region has recently developed a National Pollutant Discharge Elimination System (NPDES) General Permit for discharges of storm water run-off associated with industrial activity and maintenance dredging at marinas at Lake Tahoe. The General Permit combines requirements from the NPDES General Industrial Activities Storm Water Permit and the individual Waste Discharge Requirements in order to decrease costs and complexities associated with complying with two similar permits and their monitoring and reporting requirements. Regulations pursuant to this General Permit will manage potential pollutant discharges at the marina including storm water run-off, waste from maintenance activities, vessel sewage, bilge water wastes and pollutants associated with maintenance dredging.

The Storm Water Pollution Prevention Program (SWPPP) is a site-specific document developed for each marina in the Lake Tahoe Basin and is designed to comply with Federal requirements to implement BMPs. In accordance with this document, the North Tahoe Marina is required to install Best Management Practices (BMPs) to ensure that effluent limits and water quality objectives outlined by the Basin Plan are met with respect to fuel, oil, and sewage and that impacts associated with maintenance dredging are prevented or minimized.

The SWPPP shall be certified in accordance with the signatory requirements of Section 9 of the Standard Provisions as Attachment A in this document. It shall be revised whenever appropriate and readily available for review by facility employees or Regional Board inspectors.

OBJECTIVES

The SWPPP shall be developed and amended, when necessary, to meet the following objectives:

1. Identify and evaluate sources of pollutants associated with industrial activities being conducted at the facility that may affect the quality of storm water discharges and prevent non-storm water discharges from the facility

2. Identify and implement site-specific BMPs to reduce or prevent pollutants associated with industrial activities in storm water discharges and non-storm water discharges.

Appropriate BMPs include both structural and non-structural pollution prevention measures. Structural BMPs include treatment measures, run-off controls and overhead coverage. Non-structural BMPs include activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures.

POLLUTION PREVENTION TEAM

The pollution prevention team for North Tahoe Marina shall consist of:

1. Jan Brisco and Andrea Buxton will be responsible for researching all information required by the General Permit, writing the SWPPP, and assisting the marina operator in implementation of any necessary BMP's and monitoring and reporting activities.

2. James Walsh and Cathy Eastes are the marina operators and will be responsible for implementation of any necessary BMP's and conducting monitoring and reporting activities.

North Tahoe Marina has an Emergency Response Procedure plan on site that contains storm water pollutant control measures, included as Attachment B in this document. A Hazardous Materials Inventory is on file with the Placer County Department of Environmental Health.

SITE MAP

A site map for the North Tahoe Marina property is included as Attachment C in this document.

LIST OF SIGNIFICANT MATERIALS

A list of significant materials handled and stored at the site is included as Attachment D in this document and includes storage locations, quantities, and frequencies of use.

DESCRIPTION OF POTENTIAL POLLUTANT SOURCES

The following is a description of the industrial activities of North Tahoe Marina that are associated with potential pollutants. It includes potential pollutant sources that could be discharged in storm water discharges or non-storm water discharges and the BMPs implemented onsite to prevent pollutants from entering surface waters or stormwater. A summary of all areas of industrial activities and potential pollutant sources is included as Attachment E in this document.

The season of operation at North Tahoe Marina extends from May 1 through November 1 of each year. All industrial activities described below are only associated with the above dates of operation.

INDUSTRIAL PROCESSES

1. Fueling
    a. Locations of activity
        - On fuel dock at three fuel pumps, each with two dispensing hoses
    b. Pollutant type
        - Unleaded gasoline (benzene, toluene, ethylbenzene, xylenes and other petroleum hydrocarbons)
    c. Pollutant characteristics
        - Colorless, flammable liquid
        - Slightly soluble (0.18g/100 mL)
        - Odor detected at 12 ppm
        - Benzene is a know carcinogen
    d. Potential pollutant sources
        - Leaks or spills near pumping stations
        - Overflow from boat gas tanks while fueling
        - Rainfall running off fueling area and rainfall running into and off fueling area
    e. Quantity
        - Less than one gallon per incident
        - Incidents expected to occur very infrequently

f. BMPs
    - Sorbent booms and pads located in storage bin on fuel dock for quick absorption of spilled fuel
    - Microorganisms used after spill containment for bioremediation of remaining petroleum hydrocarbon residues
    - Employees trained in proper fueling, clean-up and spill response techniques
    - Fueling area inspected regularly to detect problems before they occur
    - Automatic shut-off valves at pumps
    - Leak detection monitors
    - Above ground storage of gasoline in Convaults with secondary containment
    - Double walled piping with secondary containment from Convaults to fuel pumps

2. Boat Washing
    a. Location of activity
        - Maintenance yard
        - Upper parking lot
    b. Pollutant type
        - Oily residues
        - Algae
    c. Pollutant characteristics
        - Petroleum hydrocarbons
        - Organic compounds (nutrients)
    d. Pollutant source
        - Films on outsides of boats
    e. Quantity
        - Low concentrations of both pollutants
    f. BMPs
        - Slotted drain discharging to underground infiltration pit #3 collects water generated in maintenance yard
        - Drop inlet discharging to underground infiltration pit #2 also collects water generated in maintenance yard
        - Drop inlet discharging to underground infiltration pit #1 collects water generated in the upper parking lot
        - Pressure washer uses minimal amount of water (approx. 1gallon/min.)
        - No soap used
        - Bioremediation by microorganisms
        - Most cleaning done outside of the Tahoe basin, in Nevada

3. Bilge Draining
    a. Location of activity
        - Maintenance yard
    b. Pollutant type
        - Oily residues
    c. Pollutant characteristics
        - Petroleum hydrocarbons
    d. Pollutant source
        - Contaminated bilge water
    e. Quantity
        - Approximately 1-5 gallons of contaminated water with low concentrations of petroleum hydrocarbons drained per boat
        - Bilges drained approximately 1 time per year for 310 boats
    f. BMPs
        - All contaminated bilge water drained into buckets and poured into 55 gallon waste water drum in shop and disposed of by Reno Drain Oil, 11970 I80 East, Sparks, NV, 89431, 775-342-0351
        - Slotted drain to underground infiltration pit #3 collects any bilge water spillage
        - Bioremediation by microorganisms

4. Painting/Gel-coating
    a. Location of activity
        - Fiberglass room
    b. Pollutant type
        - Paint
        - Gel-coat
        - Paint Thinner
        - Acetone
    c. Pollutant characteristics
        - Paints may contain heavy metals
        - Paint thinners may contain tetrachloroethylene (PERC), tetrachloroethane, trichloroethylene (TCE), methylene chloride
    d. Potential pollutant source
        - Spills while performing activity
        - Dirty paintbrushes
    e. Quantity
        - 100 gallons paint stored
        - 1-2 ounces paint used 1-2 times per week
        - 10 gallons gel-coat stored
        - 1-2 ounces gel-coat used 1-2 times per week

- 2 gallons paint thinner stored
- 1-2 ounces paint thinner used 1-2 times per week
- 4 gallons acetone stored
- 1-2 ounces acetone used 2-3 times per week

f. BMPs
- All painting and gel-coating done inside fiberglass room
- All paints/gel-coat/paint thinners/acetone stored in fireproof cabinets in fiberglass room
- Waste paint removed and disposed of by Safety-Kleen, 1200 Marietta Way, Sparks, NV, 89431, 775-331-4477
- Some disposable brushes and putty knives used
- Some brushes wiped clean with rags containing paint thinner or acetone, rags picked up and cleaned by Aramark, 1335 Greg St., Ste. 106, Sparks, NV 89431, 775-331-1221

5. Oil Changes / Drive Lubrication
   a. Location of activity
      - Maintenance yard
      - Service shop
   b. Pollutant type
      - Waste oil
      - Waste filters
      - New oil
      - Gear lubricant
   c. Pollutant characteristics
      - Petroleum hydrocarbons
   d. Pollutant source
      - Withdrawal and replacement of oil from boat engines
      - Withdrawal and replacement of lubricant from boat engines
   e. Quantity
      - 5-14 quarts waste oil
      - 1-2 used oil filters
      - 5-14 quarts new oil
      - Approximately 8-12 ounces of lubricant used per event
      - Both activities occur approximately 1 time per year for 310 boats
   f. BMPs
      - All oil pumped directly from engine into tightly sealed 30 gallon vacuum tank
      - Vacuum tank pumped into 300 gallon waste oil tank surrounded by secondary containment berm, disposed of by Reno Drain Oil

- Oil filters crushed and drained of oil on grate into same 300 gallon waste oil tank in oil room
- New oil pumped from 55 gallon drum in oil room, dispensed by dripless nozzle on rubber hose
- Waste gear lubricant poured into waste oil tank and removed by Reno Drain Oil
- Bioremediation or oily residues by microorganisms

6. Engine Maintenance
    a. Location of activity
        - Service shop
        - Maintenance yard
    b. Pollutant type
        - Oily residues
        - Cleaning solvents
    c. Pollutant characteristics
        - Petroleum hydrocarbons
        - Safety-Kleen solvent (petroleum based)
    d. Pollutant source
        - Engine parts
        - Safety-Kleen unit
    e. Quantity
        - Continuous stream of Safety-Kleen solvent cycled through unit
    f. BMPs
        - All engine parts washed in self-contained Saftey-Kleen unit
        - Contaminated solvent removed by Saftey-Kleen

7. Upholstry Cleaning
    a. Location of activity
        - Service shop
        - Upper parking lot
    b. Pollutant type
        - Carpet cleaner
    c. Pollutant characteristics
        - Unknown
    d. Pollutant source
        - Spills while performing activity
    e. Quantity
        - 10-15 gallons carpet cleaner stored
        - 1-5 ounces used 1 time per year for 310 boats
    f. BMPs
        - Solution used in self contained steam cleaner

8. Welding (Structural and equipment maintenance)
    a. Location of activity
        - Service shop
        - Anywhere structural repairs are needed
    b. Pollutant type
        - Acetylene
    c. Pollutant characteristics
        - Flammable gas
    d. Pollutant source
        - Blow torch fuel
    e. Quantity
        - Approximately 30 gallons stored
        - Welding approximately 1 time per month
    f. BMPs
        - Acetylene stored in appropriate pressurized metal tanks
        - Work area kept clean

9. Fiberglassing (Hand laying of fiberglass)
    a. Location of activity
        - Fiberglass room
    b. Pollutant type
        - Resins
    c. Pollutant characteristics
        - May contain heavy metals, sulfates, polyesters
    d. Pollutant source
        - Spills during use
    e. Quantity
        - 2 gallons stored
        - 1-2 ounces used 1 time per week
    f. BMPs
        - All fiber glassing done in fiberglass room
        - Resins stored in fireproof cabinet
        - No waste generated

10. Sewage pumping
    a. Location of activity
        - Fuel dock
    b. Pollutant type
        - Raw sewage / human waste
    c. Pollutant characteristics
        - Nitrogen containing organic compounds
        - Other organics
        - Bacteria
    d. Pollutant source
        - Spills and leaks during pumping of sewage tanks

e. Quantity
    - Approximately 200 boats at marina have onboard toilets
    - Pump-out stations used approximately 3-4 times per week
f. BMPs
    - 3 Pump-out facilities available to public – 2 on fuel dock, 1 on land
    - Pump inspected regularly for proper function
    - Sewage pumped to 75 gallon tank then discharged to sewer system and treated by Tahoe Truckee Sanitation Agency

11. Winterizing and Engine Service
    a. Location of activity
        - Service shop
        - Maintenance yard
    b. Pollutant type
        - Engine anti-freeze (for engine service)
        - Potable anti-freeze (for winterizing of onboard sinks, toilets, and other freshwater systems)
    c. Pollutant characteristics
        - Ethylene glycol
        - Propylene glycol
    d. Pollutant source
        - Spills while performing activity
    e. Quantity
        - Approximately 1 gallon used 10 times per year
        - Approximately 1 gallon used 200 times per year
    f. BMPs
        - All waste anti-freeze removed by Reno Drain Oil

MATERIAL HANDLING AND STORAGE AREAS

See Attachment C for quantities stored.

1. Service Shop
    a. Location
        - Inside boathouse
    b. Types of pollutants handled
        - Petroleum hydrocarbons (waste fuel, waste water, kerosene)
        - Safety-Kleen solvent (petroleum based)
        - Acetylene
        - Carpet Cleaner
        - Anti-freeze (ethylene glycol, propylene glycol)

- Batteries (acids/alkalis)

c. Quantity handled
   - A few gallons of petroleum hydrocarbons per event
   - A few ounces of paints, solvents, acetylene, or kerosene per event

d. Spill prevention / response procedures
   - Sorbent pads used to contain and absorb any spills
   - Safety-Kleen solvents limited to self-contained Safety-Kleen unit

2. Fiberglass Room
   a. Location
      - Inside boathouse
   b. Types of pollutants handled
      - Paints, Gel-Coat (may contain various heavy metals)
      - Solvents (acetone, paint thinner that may contain tetrachloroethane, TCE, PERC or methylene chloride)
      - Fiberglass Resins
   c. Quantity handled
      - 1-2 ounces per event (applies to all compounds)
   d. Spill prevention / response procedures
      - Sorbent pads used to contain and absorb any spills
      - All paints, solvents and resins stored in fireproof cabinets

3. Maintenance Yard
   a. Location
      - Directly outside of service shop
   b. Types of pollutants handled
      - Petroleum hydrocarbons
      - Algae
   c. Quantity handled
      - Low concentrations in approximately 1 gallon of water during bilge draining (petroleum hydrocarbons and algae)
      - 5-14 quarts petroleum hydrocarbons during oil changes
   d. Spill prevention / response procedures
      - Dirty bilge water drained to five gallon buckets and disposed of in 55 gallon waste water drum removed by Reno Drain Oil
      - Slotted drain down gradient of maintenance yard collects non-storm water discharges
      - Oil changes employ a tightly sealed vacuum pump to draw out used oil, new oil is dispensed through dripless nozzle on the end of flexible hosing

- Sorbent materials stored nearby in marina shop, near boat ramp, in rental office, and on pier for cleaning up any spills

4. Oil Room
    a. Location
        - Inside boathouse adjacent to service shop
    b. Types of pollutants handled
        - Petroleum hydrocarbons (waste oil, new oil, used oil filters, gear lubricant)
    c. Quantity handled
        - 14 quarts or less waste oil and new oil
        - 1-2 used oil filters per event
        - 8-12 ounces gear lubricant used per event
    d. Spill prevention / response procedures
        - Sorbent pads used to contain any spills
        - Secondary container on used oil tank, new oil drums
        - Used oil filters drained into used oil tank and placed in 30 gallon waste oil filter drum removed by Reno Drain Oil
        - Area kept clean and neat
        - Oil room surrounded by berm to contain spills

5. Battery Rack
    a. Location
        - Service shop
    b. Types of pollutants handled
        - Battery acids
    c. Quantity stored
        - 5-10 used batteries during operating season
        - 10-15 new batteries (spring)
    d. Spill prevention / response procedures
        - Batteries kept on wall rack, away from flammables
        - Used batteries disposed of by Interstate Battery, 333 South Carson Meadows Dr., Carson City, NV 89701, 775-883-6576
6. Marina
    a. Location
        - On Lake Tahoe
    b. Types of pollutants handled
        - Petroleum hydrocarbons
    c. Quantity handled
        - ±10 gallons fuel at fuel dock
    d. Spill prevention / response procedures
        - Sorbent pads and rags to contain and wipe up any spills located in bins on fuel dock

- Automatic shut-off on fuel pumps
- Fuel pumps manned by personnel

DUST AND PARTICULATE GENERATING ACTIVITIES

1. Sanding
    a. Location of activity
        - Fiberglass room
    b. Pollutant type
        - Particles of paint/fiberglass
    c. Pollutant characteristics
        - Fine particulates
        - May contain heavy metals
    d. Pollutant source
        - Boat surfaces
    e. Quantity
        - Minimal
        - Occurs 1 time per week
    f. BMPs
        - All sanding done with a dustless sanding system
        - All sanding done in fiberglass room where particulates can be controlled and removed

SIGNIFICANT SPILLS AND LEAKS

The North Tahoe Marina has reported no significant spills or leaks since May 1995.

NON-STORM WATER DISCHARGES

1. Hose water used during washing of boat bottom – refer to industrial activities section for a complete description of boat washing.

2. Draining of bilge water – refer to industrial activities section for a complete description of bilge draining.

EROSION AND SEDIMENT CONTROL

1. Existing soil stabilization
    a. Large portion of marina surface is impervious
    b. Unpaved surfaces are covered with mature vegetation
    c. Large boulders on shoreline reduce wave impacts and shorezone erosion
    d. Curbs gutters and rock drainages direct water flow away from potentially erodable areas
    e. Retaining walls bordering parking lot reduce bank erosion